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INCOME AND HOUSEHOLD EXPENDITURE OF WORKING-CLASS FAMILIES WITH CHILDREN

PART I: INCOME AND EXPENDITURE ON NON-FOOD ITEMS

The seventh inquiry by the Institute of Statistics into the household expenditure of working-class families, since spring 1940, was carried out in June-July 1945. Except for the first year, when the sampling was repeated after an interval of six months, the inquiries were made once a year. Their purpose is to ascertain in detail working class household expenditure during a fortnight within a fixed sampling period. A survey over four weeks would, of course, have been preferable; but very few housewives were willing to keep a daily account of every single item of expenditure for so long. Even for the shorter period the number of contributions has remained small. We do, however, believe—and the picture obtained from every additional inquiry has confirmed us in this conviction—that our samples are representative of a particular type of urban working-class family, *viz.*, that within the lower or medium income range with, as a rule, one or more dependent children.

The months of June and July had been fixed as our annual sampling period at an early stage of this series of investigations, for two main reasons : First, it was essential for the inquiry to be held at a time when the evenings are light, since both Investigators and housewives could frequently only attend to it at the end of their working day, and the black-out made visits to the individual households a very arduous task in the dark. Secondly, since the work of visiting was undertaken voluntarily for us it had to be done when voluntary helpers are most likely to be forthcoming. Many of our helpers are university or school teachers, heads of social training groups, or students of social science, and it was impossible to enlist their assistance in the middle of the long vacation. On the other hand, in order to avoid serious distortions of the normal pattern of income and expenditure, we had to keep clear of Whitsun holiday. Thus the end of the academic year appeared to be the most suitable time, although it demanded very considerable sacrifices from teachers and students, who had to fit in the visits to the households and the checking and collecting of the accounts with their end of term work and, in particular, with examinations. Their generous assistance in our work, and the perseverance of the housewives in keeping the accounts, have made it possible for us to obtain a year-by-year picture of the economic effects of war-time conditions on a particular type of family.

A number of the families that supplied the household accounts in 1944, were directly affected by the attacks of the flying bombs. In some instances, houses were damaged, and the families had to live in temporary quarters; in other cases, people had given shelter to evacuees, and several families kept house together. In summer 1945, many of those who had a home to go back to had returned to it. Others had relinquished unsatisfactory temporary quarters—perhaps rather expensive ones—for more suitable accommodation. It was, therefore, of considerable interest to compare household accounts for these two years in order to see whether and to what extent these more stable conditions were reflected in the families' mode of living, as expressed in the pattern of their household expenditure.

1. *The Structure of the Sample.*

(*a*) General.

In 1944, in spite of the prevailing difficulties, we obtained a maximum in our six years' series of samples, of 226 household accounts, supplied by families from 17 different towns. In 1945, only 155 families from 14 towns contributed to our sample. The Investigators in Bristol, Reading, and Edinburgh, who had assisted us in previous years, were unable to do so in 1945, and it proved impossible to find anyone suitable and willing to take their places. War-tiredness, the readjustment of family life consequent to the ceasing of the European hostilities, and the impending elections, affected the readiness and, often, the ability of the housewives to keep a detailed account during the stipulated period.

Nevertheless, the total number of families that completed a budget for us in both 1944 and 1945, was about as high as the number of parallel budgets obtained for 1943 and 1944: 84 families whose structure had remained *unchanged* from one sampling period to the following one, had supplied accounts for the years of 1943 and 1944, and 85 families did so for 1944 and 1945. From families whose structure had *changed*, either because of the birth of a child, the calling up or demobilization of a member of the family, or for some other reason, we obtained 33 accounts in 1943 and 1944, and 26 in 1944 and 1945. But there were in 1944, 109 *new* families that had not previously contributed to our sample, and only 44 of such families in 1945. We again accepted for our sample *new* families only if they were not supported by Public Assistance or charity organizations, had at least one dependent child at home, and did not keep boarders on a profit basis.[1] The inclusion in a family of a relation, friend, or evacuee, who only repaid the actual expenses incurred on his or her behalf, was not deemed to vitiate the homogeneity of our sample.

(*b*) Geographical distribution.

That the reduction in the total number of accounts kept has little interfered with the general structure of our sample in 1945, as compared with that of 1944, becomes evident from the data in the two bottom rows of Table I, which compare some of the characteristic average figures for the two years. The Table sets out the distribution by towns of the families that supplied an account in 1945. They are subdidivded into *unchanged*, *changed*, and *new* families. It will be seen that half of the *new* families came from Liverpool, which in 1945, was represented by 27 accounts, as compared with 31 in 1944.

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[1] There is, however, amongst the *changed* families one that was in receipt of Public Assistance in 1945, and a few of the *unchanged* families no longer had children under 14 years of age, although this was the case in the first year when they contributed to our inquiry, with one exception.

TABLE I

Geographical Distribution of Families

	Un-chgd.	Chgd.	New	Total	No. of Persons per family	'Man' value per Person	Expenditure on Food per 'Man' per week	Expenditure on Rent[1] per family	Expenditure on Fuel & light per week
(1) Birmingham ...	6	3	—	9	4.7	0.73	15/0¼	9/11¼	6/3
(2) Dundee	1	—	—	1	2.0	0.73	17/10¼	4/7	6/3
(3) Glasgow	7	1	4	12	4.1	0.73	14/11¼	12/0¾	7/4
(4) Leeds	10	2	1	13	4.2	0.81	14/11½	14/-	5/9¼
(5) Lincoln	1	4	—	5	6.8	0.76	12/0½	11/5¾	8/0¼
(6) Liverpool ...	2	3	22	27	5.3	0.79	13/3	13/6	10/7
(7) London	5	2	1	8	4.6	0.75	15/5½	15/3	8/8¼
(8) Manchester ...	11	4	2	17	4.9	0.74	14/6¼	11/6	6/6¼
(9) Newcastle ...	6	1	—	7	3.6	0.78	14/0½	10/4	4/4½
(10) Oxford	6	—	3	9	4.7	0.74	13/5½	11/6¾	7/8
(11) St. Helens ...	7	1	4	12	4.6	0.75	12/8	11/8¼	7/5½
(12) Sheffield ...	7	1	—	8	5.0	0.80	12/6½	14/2¾	6/10½
(13) Southampton ...	13	2	6	21	4.0	0.80	16/6	17/5½	9/1
(14) Swindon ...	3	2	1	6	3.5	0.80	14/10¼	16/4½	8/6½
Total 1945 ...	85	26	44	155	4.6	0.77	14/2½	13/-	7/10¼
Total 1944 ...	84	33	109	226	4.7	0.77	13/10¼	13/2¾[2]	8/2

[1] Excluding the following 17 families living rent free or buying their houses: Leeds 2; Liverpool 2; Manchester 1; Newcastle 1; St. Helens 1; Swindon 2; Southampton 8.

[2] Average for 204 families.

In 1944, the majority of the Liverpool budgets were obtained through schools from the parents of girls aged between 13 and 14 years, and, unfortunately, contact had been lost with most of these families. Yet in spite of the fact that 22 out of the 27 budgets in 1945 came from *new* families, the average figures of family structure and expenditure on food and rent were fairly similar for this town in both years; in 1945, the number of persons per family was 5.3, the 'man' value per person[1] 0.79, food expenditure per 'man' 13 shillings 3 pence, and rent per family 13 shillings 6 pence, as against the following values in 1944: number of persons 5.2, 'man' value 0.80, food expenditure per 'man' 13 shillings 1¾ pence, and rent 14 shillings 2½ pence. Only the figures for fuel and light were markedly different for the two years, *viz.*, 10 shillings 7 pence in 1945, and 9 shillings 7¾ pence in 1944, per family per week, thus exhibiting an apparent rise by nearly 10 per cent, while average expenditure on this item of the whole sample in 1945 was approximately 4 per cent below that of our sample in 1944. However, outlay on fuel and light during the summer months is largely determined by the purchases of coal that is stored for later consumption—at present often more dependent on conditions of supply than of demand—, and there is no reason to assume that differences in the outlay on fuel and light point to any fundamental difference in the socio-economic type of the Liverpool budgets for the two years, which, indeed, is most unlikely to exist.

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[1] The average 'man' values are based on the following scale: adult male, 1.00; adult female, 0.85; children, from 0.33 to 0.70, with an average of 0.55. The values for children are set out in more detail in part II of this paper, which will be published next month. This scale of 'man' values is employed always, except where explicit reference is made to a different scale.

Excepting the one budget from Dundee supplied by a family that has contributed an account to our sample for many years, and that for the last few years has consisted only of a mother and a child, with a relatively high income and a resultant high expenditure on food, the range of food expenditure revealed in Table I is fairly narrow, lying between about 12 shillings per ' man ' (Lincoln) and 16 shillings 6 pence (Southampton). In 1944, too, the accounts from Southampton gave the highest average food expenditure per ' man ', *viz.*, 15 shillings 5¼ pence, and—as again in 1945—also on rent per family (18 shillings 6½ pence). The lowest expenditure on food in 1944 was that of the six Reading families, with 11 shillings 8 pence per ' man ' per week, while the penultimate group at the lowest end consisted of the 18 families at St. Helens, with an average of 12 shillings 11 pence. The average figures with respect to the families from one town may, of course, conceal very considerable differences in the food expenditure of the individual families; yet in conjunction with the data in Table II they will convey some idea of the economic type of the families with which our sample is concerned.

TABLE II

Expenditure on Food Compared with Other Household Expenditure

1945	*1944*		1945					
Outlay on Food per ' Man ' per Week	*Number of Families*	*Persons per Family*	Number of Families	Persons per Family	' Man ' Value per Person	Average Outlay on Food per ' Man ' per Week	Total Househ. Outlay[1] *ex.Housg* p. ' Man' p. Week	Outlay on Rent per Family[2] p. Week
under 9s.	*4*	*7.8*	—	—	—	—	—	—
9s.—10s.	*6*	*5.7*	4	5.8	0.73	9/5½	20/6½	11/10½
10s.—11s.	*12*	*6.4*	9	5.3	0.82	10/6½	19/0¼	14/6¼
11s.—12s.	*27*	*5.7*	19	5.7	0.77	11/7¼	20/1¾	11/10½
12s.—13s.	*36*	*5.2*	20	5.5	0.75	12/5¾	22/7¼	11/9½
13s.—14s.	*29*	*4.4*	18	5.0	0.78	13/6	23/5½	13/8½
14s.—15s.	*25*	*4.8*	22	4.5	0.79	14/6¾	27/11¼	12/9¾
15s.—16s.	*23*	*4.3*	20	4.1	0.76	15/6½	32/7¼	15/6¾
16s.—17s.	*24*	*4.1*	7	3.7	0.78	16/6¼	27/7	15/1¾
17s.—18s.	*11*	*3.5*	12	3.8	0.77	17/3¾	32/3¾	11/6¾
18s.—19s.	*13*	*3.5*	8	3.4	0.78	18/6¾	40/1½	11/8
19s.—20s.	*8*	*3.6*	6	3.2	0.75	19/6¼	39/5¼	12/5¾
20s.—22s.	*3*	*4.0*	6	3.3	0.67	20/11¾	40/11¾	12/8¾
22s. & over	*5*	*2.6*	4	3.5	0.80	24/2½	43/4½	12/10¼
Total	*226*	*4.7*	155	4.6	0.77	14/2½	30/2¼	13/–[3]

[1] Including outlay on food.

[2] Excluding 17 families living rent free or buying their houses, in the following food expenditure groups : 11s.—12s., 2 families ; 12s.—13s., 1 family ; 13s.—14s., 3 families ; 14s.—15s., 3 families ; 15s.—16s., 3 families ; 16s.—17s., 1 family ; 18s.—19s., 2 families ; 19s.—20s., 1 family ; 22s.—and over, 1 family.

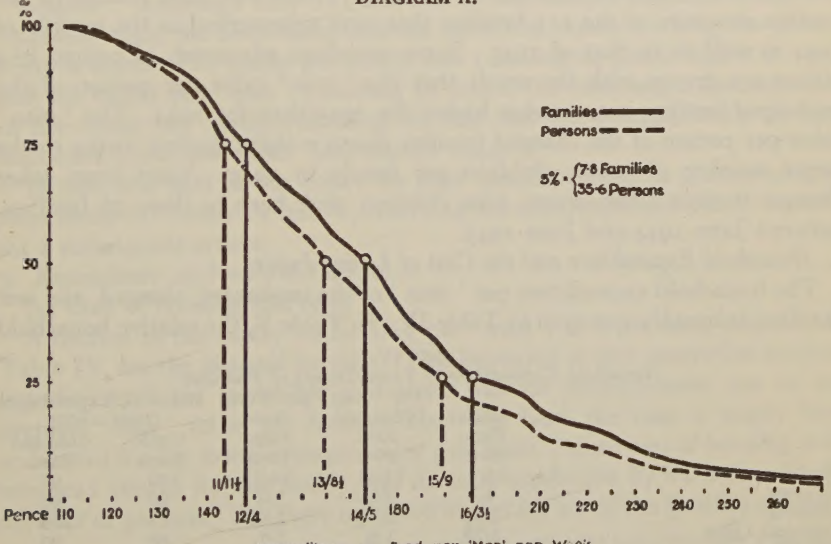
[3] Average per family per week of 138 families.

(*c*) The economic outline.

In the absence of full information regarding income, expenditure on food is perhaps the best single pointer to the standard of living of a person or a family, and in Table II our sample is surveyed from that angle. The numbers of families and their average structure are shown, ranged according to their expenditure on food per ‘ man ’, and with expenditure on food is compared total household expenditure per ‘ man ’, including expenditure on food, but excluding cost of housing, i.e., of rent, rates, and mortgage charges. This latter item has been deducted since for the individual family, cost of housing is not a variable in the short run, as are all the other major items of household expenditure. The last column in Table II gives the average outlay per family per week on rent only (including rates). In both 1944 and 1945, little less than two thirds of the families spent on food per ‘ man ’ per week from 11 shillings to 16 shillings.

The expenditure on food per ‘ man ’ per week of all the 155 families in 1945 was 14 shillings 2½ pence, while that of the 226 families in 1944 was 13 shillings 10¼ pence. This slight apparent increase results mainly from the dropping out of our sample of some of the poorest families; there were in 1944, four families with a weekly food expenditure per ‘ man ’ of less than 9 shillings, but none in 1945; and only one of the families that kept an account in both years spent less than 9 shillings in 1944. No rise occurred in the expenditure on food per ‘ man ’ of the *unchanged* families, and that of the *changed* families declined by 3 per cent, as will be seen from the indices in Table IV.

DIAGRAM A.



Cumulative Frequency Curves of Families and Persons in Relation to their Expenditure on Food.

In Diagram A the proportion of families below or above a given food expenditure per ' man ' is compared with the proportion of persons below or above that point. The lower and the upper quartiles of the total number of persons and the total number of families, lie more closely together than the two medians, thus indicating that the families between the first quartile and the median of the number of persons, are of an average size larger than those below the first quartile, a fact that is not obvious from the figures in Table II. In 1944, the quartiles and medians found for 226 families—1064 person—were, for persons : lower quartile, 11 shillings 9 pence, median, 13 shillings 4½ pence, upper quartile, 15 shillings 7 pence; for families : lower quartile, 12 shillings 2¾ pence, median, 13 shillings 10¼ pence, upper quartile, 16 shillings 3 pence.

TABLE III

Average Structure of Families

	Age Group	Unchanged Families (85)		Changed Families (26)		New Fam. (44)	All Fam. (155)
		1944	1945	1944	1945	1945	1945
Males	18 and over	0.91	0.95	1.19	1.19	1.16	1.05
Females	18 and over	1.11	1.11	1.42	1.31	1.20	1.17
Males	15—17	0.15	0.16	0.31	0.27	0.11	0.17
Females	15—17	0.12	0.14	0.27	0.27	0.23	0.19
Children	6—14	1.15	1.20	1.54	1.62	1.41	1.33
Children	under 6	0.67	0.55	0.89	1.04	0.77	0.69
Persons p. family		4.11	4.11	5.62	5.70	4.88	4.60
' Man ' value per Person		*0.76*	*0.78*	*0.77*	*0.75*	*0.77*	*0.77*

Table III analyses the composition of the 85 *unchanged*, 26 *changed*, and 44 *new* families, that kept an account in 1945. There was little change in the average structure of the 111 families that were represented in the sample of 1944 as well as in that of 1945. Some members advanced, of course, to a higher age group, with the result that the ' man ' value per person of the *unchanged* families is somewhat higher for 1945 than for 1944. The ' man ' value per person of the *changed* families shows a slight decline owing to the larger number of young children per family in 1945. Apart from other changes in their composition, nine children were born to these 26 families, between June 1944 and June 1945.

2. *Household Expenditure and the Cost of Living Index.*

The household expenditure per ' man ' of the *unchanged*, *changed*, and *new* families, is broadly surveyed in Table IV. In Table V, the relative household

TABLE IV

Household Expenditure of Three Groups of Families

	Per ' Man ' per Week			Index of Expenditure (1944=100)	
	Unch. Fam. 1945	Changed Fam. 1945	New Fam. 1945	Unch. Fam.	Changed Fam.
Food	14/4	13/11	14/2½	100	97
Housing	4/-	2/10	3/6	99	92
Clothing	2/2¾	2/4¾	2/6½	87	119
Fuel and Light	2/2¾	1/8	2/7	86	93
Miscellaneous	8/0¼	5/6¼	8/10½	98	101
Total	30/9¾	26/4	31/8½	97	99

TABLE V

Weekly Family Expenditure

	1944 226 Families		1945 155 Families		1944 Ministry of Labour Cost of Living Index Weighting[1]		1945	
	incl. Miscellaneous	excl.	incl. Miscellaneous	excl.	incl. Miscellaneous	excl.	incl. Miscellaneous	excl.
	%	%	%	%	%	%	%	%
(1) Food ...	48	62.7	47	63.4	50.4	53.5	50.5	53.5
(2) Housing ...	12	16.1	12	16.2	13.1[2]	13.9[2]	12.9[2]	13.7[2]
(3) Clothing ...	8	11.0	8	10.5	20.6	21.9	20.3	21.5
(4) Fuel & Light	8	10.2	7	9.9	10.1	10.7	10.7	11.3
(1)—(4)	76	100.0	74	100.0	94.2	100.0	94.4	100.0
(5) Miscellaneous	24		26		5.8		5.6	
Total Outlay ...	100		100		100.0		100.0	
Weekly Outlay ...	s. d.		s. d.					
per Family ...	105 0½[3]		106 6¾					
per 'Man' ...	28 10¾		30 2¼					

[1] Corrected for the rise in prices from July 1st, 1914, to June/July, 1944 and 1945.

[2] Rent only. (incl. rates).

[3] In 1944, the family consisted of 4.7 persons with an average 'man' value of 0.77.

expenditure of all the 155 families in 1945 is compared with that of the 226 families that kept accounts in 1944, and, further, with the 'weights' applied by the Ministry of Labour for its cost of living index, adjusted for the differences in the rise of prices in the several groups, since July 1st, 1914. The last two rows in Table V give the actual outlay as ascertained by us, per family and per 'man', for 1944 and 1945. It will be noticed that all the figures for the two years have remained remarkably steady, and, also, that the relative data obtained by us differ considerably from the Ministry of Labour 'weights'. Although only 111 families of our sample supplied budgets in 1944 and 1945, the differences between the actual expenditure figures of both years is small. The outlay per family was 1 shilling 6¼ pence higher in 1945, and the outlay per 'man' 1 shilling 3½ pence, the relatively closer approach in the outlay per family reflecting the fact that the average family in 1945 contained about 0.1 'man' less than in 1944.[1]

In this first part of our paper we shall consider only the groups of non-food items in Tables IV and V, reserving the analysis of the outlay on food for a subsequent article.

3. *Expenditure on Non-Food Items.*

(*a*) Cost of housing and rent.

A decline in the outlay on housing per 'man', of 8 per cent, is shown in Table IV, for the *changed* families. This appeared at first somewhat surprising, for rents are controlled and there was no proportionate rise in the average 'man' value per family. Had this been the case it might have accounted for the lower average outlay per 'man', since cost of housing is an overhead charge for the family and its total unaffected by variations in the number of persons. But there occurred in fact for six of the families substantial reductions in their outlay on housing—from 2 shillings to 15 shillings a week—in most instances because of the family's relinquishing of temporary and rather expensive accommodation.

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[1] The average weekly cost of maintenance for 0.1 'man' in 1945 being just over 3 shillings, the total difference for a family of the same size as in 1944 would amount to 4 shillings 8 pence.

The much higher cost of housing per ' man ' of the *unchanged* families as compared with that of the *changed* and the *new* ones, appears in a different aspect if we consider the cost of housing per family instead of per ' man '. Then the lowest outlay is still found to obtain for the *changed* families—none of which lived rent free—with 12 shillings per week. The central position, however, is now taken by the *unchanged* families, with an average of 12 shillings 9 pence; this group includes two families that paid nothing for their housing accommodation. Another two families that also paid no charges at all were found in the group of *new* families, which, including these two families, had an average outlay on housing of 13 shillings 2 pence.

The average cost of housing per family per week for all the 155 families in 1945 amounted to 12 shillings 9¼ pence, as compared with an average weekly rent (including rates) of 13 shillings paid by 138 families. Of the remaining 17 families, four paid nothing and thirteen paid mortgage charges and/or rates, in six instances substantially more and in six substantially less than the average cost of rent. One family spent exactly 13 shillings per week on rates and mortgage charges. In 1944, an average rent of 13 shillings 2¾ pence was found to obtain for 204 families. In that sample, exceptionally high rents paid by a few families were counter-balanced by the low rents of some of the poorest families that did not keep an account in 1945.

The outlay on rent per family is given for the different towns represented in our sample, in Table I. These figures cannot, of course, be taken as characteristic of the relative levels of rent charges in these towns. They merely indicate, in conjunction with the figures of food expenditure and expenditure on fuel and light, some strategic points in the cost of living pattern of the families of our sample. There is no perceptible interrelation between these three sets of figures in Table I, although some relation between rent and expenditure on food seems to emerge in Table II, where the families are arranged in ascending order of food expenditure per ' man '. Rent there tends towards a peak for the central groups of food expenditure, while for the higher groups it again falls off.

(*b*) Clothing.

The average outlay on clothing per ' man ' per week for the three groups of families was 2 shillings 2¾ pence for the *unchanged*, 2 shillings 4¾ pence for the *changed*, and 2 shillings 6½ pence for the *new* families. (Table IV). These figures, however, represent only part of the actual expenditure on clothing. They comprise little more than what the housewife disburses in payment into clothing clubs, or for shoe repairs and small items of apparel purchased largely for herself or for the children. The main outlay on clothing is usually met by the earners directly, either out of their pocket money or out of savings, and does not appear in the housewife's account of household expenditure.

(*c*) Fuel and Light.

Similar to the outlay on housing, the outlay on fuel and light is considered better as a charge incurred per family than per person or per ' man ', since variations in the size of the family make generally little or no difference to the household consumption of light or heating of the families of our sample, while the concomitant alterations in the consumption of fuel for cooking and washing are, as a rule, too slight to cause any substantial changes in the total outlay on fuel and light, taken together. In 1945, this outlay had declined fairly sharply for the *changed* as well as the *unchanged* families, but from the figures in Table VI it appears that this was mostly the result of a decline in the outlay on coal. Hence the lower index figure may rather picture temporary changes in supply than in potential consumption, for part of the coal that is bought during the summer months is stored for the cold season. During the twelve months lying between our two inquiries, the Ministry of Labour index of the cost of fuel and light had gone up by 9 per cent, from 253 to 275, a rise brought about by an increase in the price of coal of approximately 12 per cent, and of gas by 6 per cent. The volume of coal purchased in 1945 per family of our sample was therefore 73 per cent of that in 1944 for the *unchanged* families, and 77 per cent for the *changed* families, during the sampling period.

TABLE VI

Weekly Family Expenditure on Fuel and Light

Group of Families	Total Fuel and Light Outlay	*Index* (*1944= 100*)	Coal Outlay	Gas Outlay	Electricity Outlay	Other[1] Outlay
Unchanged (85)						
1944	8/1¼	*100.0*	4/2	2/0¼	1/6½	4½
1945	7/1¼	*87.8*	3/5	1/10	1/6	4¼
Changed (26)						
1944	7/8½	*100.0*	3/10½	2/2¼	1/4½	3¼
1945	7/1¼	*92.2*	3/4	2/1¾	1/2¼	5¼
All Families (155) ...	7/10¼	—	3/7¾	2/2	1/7¾	4¾

[1] Including firewood, matches, etc.

(*e*) Miscellaneous items.

The biggest difference for the several groups of families in Table IV appears in the outlay on ' miscellaneous ' items, which includes a very wide range of expenditure, *e.g.*, purchases of household goods, seeds and garden implements, cleaning materials, laundry charges, contributions to voluntary insurances and clubs for unspecified purposes, payments to doctor, dentist, and chemist, cost of education, amusements, newspapers, drink, and tobacco. Many of these expenses tend to appear only in part in the household accounts, being largely defrayed by the earners themselves and, to that extent, unknown to the housewife. One would, however, be inclined to assume that—*ceteris paribus*—the larger the average number of persons per family with pocket money of their own the smaller the outlay out of housekeeping money on

' miscellaneous ' items. There is, indeed, an indication of this with respect to the *unchanged* and *changed* families. The former contained on the average 1.36 persons over 14 years old, excluding the housewives, whether earners or non-earners, and the latter 2.04 of such persons. If the expenditure on ' miscellaneous ' items of the two groups of families is weighted by these numbers the resulting indices are very nearly the same for the two groups. For the *new* families, however, this index figure is 35 per cent above that of the *changed* and 38 per cent above that of the *unchanged* families.

The average weekly outlay per family *out of housekeeping money* on some of the largest single items of the ' miscellaneous ' group will be found in Table VII. For the data of this Table, the families have first been subdivided into two main groups, *viz.*, those stating their total income and those stating their household expenditure only. Secondly, for each individual item the number of families that declared any expenditure on it, has been counted and expressed as a percentage of the total number of families in the respective group. We thus were able to calculate two sets of figures of average expenditure, the one referring only to the number of families that actually spent some money on the item, and the other based on the total number of families in the whole group. The pattern of household expenditure of the families that revealed their total income will be discussed below; here we are only interested in a comparison of the absolute and relative figures given in Table VII for the two groups of families. The percentage of families that showed in their household account some expenditure on tobacco, amusements, and insurances and clubs, was somewhat higher for the group stating total income than for that stating household expenditure only. Since a similar relative picture emerged in previous years, it seems to indicate that when the housewife knows what everybody in the family earns she is more likely to be entrusted with providing certain personal items for the earners, either for their own or for the family's benefit, *e.g.*, cigarettes and tobacco, or a family visit to the cinema. It is worth noting that with the exception of expenditure on drink—which in any case represents only a small fraction of the actual

TABLE VII

Expenditure on Miscellaneous Items out of Housekeeping Money

	99 Families Stating Income			56 Families Stating Household Outlay Only		
	Families Buying as % of 99 Fams.	Weekly Outlay per Family		Families Buying as % of 56 Fams.	Weekly Outlay per Family	
		Actually Buying	Aver. of Group of 99 Fams.		Actually Buying	Aver. of Group of 56 Fams.
Drink...	47	2/–	–/11½	50	3/0¾	1/6½
Tobacco	65	9/5¾	6/2¾	55	9/9	5/4¾
Newspapers ...	96	1/6¾	1/6	98	1/5½	1/5¼
Amusements... ...	77	4/9	3/7¾	64	4/5¾	2/10½
Insurance and Clubs[1]	99	4/5½	4/5	96	4/7¼	4/5¼
Total Aver. Outlay...			16/9			15/8¼

[1] Excluding compulsory insurances and ' clubs ' for specific purchases, *viz.*, clothing, coal, furniture, etc.

outlay on this item—the average figures for the two groups, relating to the number of families actually stating an outlay on these items of expenditure, approach closely to one another.

4. *Household Expenditure and Income.*

In analysing accounts of household expenditure that are divorced from the background of family income there always remains a strong element of doubt as to how the data obtained should be interpreted. Thus it is impossible to say whether a rent high in relation to food expenditure does actually affect the level of food expenditure; or, to take another example, whether a low expenditure on clothing implies lack of purchasing power due to poverty or only lack of purchasing power out of housekeeping money. It is therefore fortunate that we received statements of their total net income[1] from 99 out of the 155 families, so that we can try to place our analysis of household expenditure in a wider perspective. Of the 99 families, 50 *unchanged* and 9 *changed* families had supplied statements of their income also in 1944, while 13 *unchanged* and 6 *changed* families only made them in 1945. These latter 19 families had consequently to be included in the group of ' new ' families for the purpose

TABLE VIII

Expenditure of Income of 99 Families

	50 Unchanged Families		9 Changed Families		40 New Fam.[1]
	1944	1945	1944	1945	1945
	Per ' Man ' per Week		Per ' Man ' per Week		Per ' Man ' per Week
Food	14/2¾	14/8	14/3¾	14/3½	14/9¾
Housing	4/1¾	4/2¾	4/–	3/3¼	3/8
Clothing	2/10	2/6¼	1/11¼	3/8	2/7¼
Fuel and Light ...	2/5½	2/3	1/10¼	1/9¼	2/5¾
Miscellaneous ...	8/11¾	8/8½	8/6½	8/0½	8/0½
Total Household ...	32/7¾	32/4½	30/7¾	31/0½	31/7¼
Savings	–/8½	–/8½	–/1¾	–/6¼	–/3¼
Unspecified	7/0½	8/5¾	8/11	7/7	9/9¾
Total Income ...	40/4¾	41/6¾	39/8½	39/1¾	41/8¼
Relative Expenditure of Income					
Food	43.6 35.2	45.3 35.3	46.7 36.0	46.1 36.5	46.8 35.5
Housing	12.7 10.3	13.1 10.2	13.0 10.1	10.5 8.3	11.6 8.8
Clothing	8.7 7.0	7.8 6.1	6.4 4.9	11.8 9.4	8.2 6.2
Fuel and Light ...	7.5 6.1	6.9 5.4	6.0 4.6	5.7 4.6	7.9 6.0
Miscellaneous ...	27.5 22.2	26.9 20.9	27.9 21.5	25.9 20.5	25.5 19.3
Total Household ...	100.0 80.8	100.0 77.9	100.0 77.1	100.0 79.3	100.0 75.8
Savings[2]	1.8	1.7	0.4	1.3	0.7
Unspecified	17.4	20.4	22.5	19.4	23.5
Total Income ...	100.0	100.0	100.0	100.0	100.0
Per Family per Week					
Total Income ...	125/9	132/3¼	149/1	152/5¼	140/1½
Housing	12/11	13/5½	15/–	12/8½	12/4¼
Fuel and Light ...	7/7¾	7/1¾	6/11	6/11¼	8/4¼

[1] Including Unchanged and Changed Families that did not state their total income in 1944.

[2] Contributions to street and school savings clubs out of housekeping money.

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[1] ' Net ' income in this context excludes taxes, compulsory insurances, and contributions to trade unions.

of all the Tables referring to total income, in which, therefore, ' new ' families has a meaning different from that employed generally in this paper, *viz.*, families that kept a household account for us for the first time in the year referred to.

The figures of absolute outlay in Table VIII square reasonably well with those in Table IV, even as regards the extremely small group of *changed* families in Table VIII. Owing mainly to the higher outlay on ' miscellaneous ' items of the families that stated their income, the figures of relative outlay give a smaller ' weight ' to the other items, as compared with those in Table V, for all the families taken together. Nevertheless, the approximation to one another of these several sets of figures is sufficiently close to allow us to assume that a similar margin between income and household expenditure, of something between a fifth and a quarter of the total income, also exists on the average for the remaining 56 families. Indeed, it may even be somewhat wider for these families, since, as appears from the figures in Table X, they

TABLE IX

Structure of 99 Families in Table VIII

	50 Unchanged Families		9 Changed Families		40 New Fam.[1]
	1944	1945	1944	1945	1945
	per Family		per Family		per Family
Earners, 18 and over :					
Male	0.92	0.94	1.11	1.22	1.00
Female[2] ...	0.33	0.30	0.44	0.22	0.37
Earners, 16—18 :					
Male	0.04	0.10	0.22	0.11	0.03
Female ...	0.06	0.08	—	—	0.12
Earners, under 16 ...	0.10	0.08	0.22	0.33	0.03
Non-Earners[3] ...	0.77	0.80	1.01	1.01	0.75
Depend. Children[4] ...	1.86	1.78	1.67	2.11	2.10
Total No. in Family	4.08	4.08	4.67	5.00	4.40
' Man ' Value p. Person	*0.76*	*0.78*	*0.80*	*0.78*	*0.76*

[1] Including Unchanged and Changed Families that did not state their total income in 1944.

[2] Including housewives in receipt of army allowances.

[3] Housewives and invalids.

[4] Including children at school over 14 years old.

TABLE X

Distribution of Earners and Non-Earners in Families Stating Income and Families Stating Household Outlay Only

Members in Family		Fams. Stating Income (99)	Fams. Stating Household Outlay Only (56)	All Families (155)
Earners :				
18 and over	Male	0.99	1.14	1.04
	Female	0.32	0.26	0.30
16—18	Male	0.07	0.05	0.06
	Female	0.09	0.04	0.07
Under 16	Male and Female	0.08	0.13	0.10
Non-Earners[1] :		0.80	0.96	0.87
Dependent Children[2] :		1.94	2.55	2.16
Persons per Family		4.29	5.13	4.60

[1] Housewives and invalids.

[2] Including children at school over 14 years old.

had 15 per cent more adult male earners per family than the families that stated their total income. It is not possible for us to attempt any definite conclusion in this respect, since the 9 *changed* families had the highest number of adult male earners and yet the smallest margin between income and household expenditure. But this group is too small to be taken by itself as typical, and a comparison of the structure and the outlay of the 50 *unchanged* and the 40 ' new ' families does, in fact, reveal the wider margin for the group with the larger number of adult earners, *viz.*, the ' new ' families.

The increase in weekly income per family of the 50 *unchanged* families, by about 6 shillings 6 pence, shown in Table VIII, does not indicate for these families a general trend towards increased individual earnings but is due mainly, on the one hand, to the decline in the number of dependent children and the concomitant increase in that of earners, and, on the other, to the advance of some of the young earners in these families to a higher wage group, from 1944 to 1945.

The figures of family structure in Tables IX and X have been compiled for the purpose of distinguishing between the earning and the non-earning members of these families. The picture which they convey is therefore somewhat different from that obtained from Table III, where the only distinction made is between age and sex groups. In Tables IX and X, the figures for dependent children include boys and girls at school over 14 years old, of which there were 0.14 per family. This does not, however, imply that about every seventh family of our sample had a child at a secondary school; some of these dependent children had apparently only just attained their fourteenth birthday and were due soon to leave school. A housewife is counted as a full earner in Tables IX and X only if her income was at least 50 shillings per week,[1] and as a half earner if it was at least 25 shillings. Earnings below this amount were disregarded.

The difference between the actual and the potential standard of living of a family is indicated, although only in a very broad way, by the relation between food expenditure and income. The proportion of the family income spent on food ranged, for the 99 families that stated their total income, from 20 per cent to 60 per cent, the former representing an outlay on food of 16 shillings 2 pence per ' man ' per week, by a family of three persons, and the latter a corresponding outlay of 14 shillings 6 pence by a family of eight persons. The penultimate family at the lowest end of the range had an outlay of 10 shillings 4 pence per ' man ' per week, amounting to 22 per cent of the family income. This family consisted of six persons, with four earners, who had all their meals at home, and no exceptionally high expenses on non-food items necessitated the low expenditure on food, which appeared to be simply the result of the careful catering of an economic housewife. Altogether, expenditure on food seemed in general independent of the absolute amount of income. Amongst the 99 families a central group of 39 families stood out with an expenditure on food from 12 to 16 shillings, which absorbed between 30 and 50 per cent of the family income. For all the 99 families, the average proportion of income allotted to the purchase of food amounted to 35·5 per cent, but the scatter around the central group was loose.

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[1] A housewife is also counted as an ' earner ' if, in the absence of her husband, she drew an army allowance.

Yet although no correlation was found to exist between our data of food expenditure and their relative magnitude with respect to income, a strikingly 'normal' distribution can be obtained if we break down the figures in a different way, ignoring the absolute outlay on food and, instead, considering its relative magnitude and relating it to the size of the family. This has been done in Table XI. The tendency of the relatively larger families to spend a larger proportion of their income on food is, of course, nothing unexpected, not only because large families tend to be relatively poorer than small ones of a similar type but also because, if the larger family contains more earners than the small one, such expenditure as cost of housing, and fuel and light, is likely to take up a smaller proportion of the total family income than it does for the family of fewer persons. Of the six families of over 7 persons in Table XI, four had an outlay on food per 'man' of between 12 and 14 shillings, one—spending slightly over 50 per cent of the total income on food—of about 11 shillings 9 pence, while the family with the highest expenditure —14 shillings 7 pence—employed about 62 per cent of their total income for the purchase of food.

TABLE XI

Outlay on Food Compared with Income

Families		Food expenditure representing of income					
Size	Total No.	under 20%	% 20—30	% 30—40	% 40—50	% 50—60	% 60 and over
Under 5 Persons ...	66	1	18	27	18	2	—
5—7 Persons ...	27	—	4	11	11	1	—
over 7 Persons ...	6	—	—	1	2	2	1
All Families ...	99	1	22	39	31	5	1

5. *Summary.*

In summarizing this article the following main results of our analysis stand out:

In our sample for 1944, some indication was shown of a rise in individual earnings since 1943, but no increase was evident in comparing the figures at our disposal for both 1944 and 1945. Total household expenditure, too, showed very little change, and average expenditure on food had also remained practically constant. Further, average outlay on 'miscellaneous' items purchased out of housekeeping money was nearly identical for both years, for the two groups that allowed of a direct comparison of the household accounts for 1944 and 1945. The most marked variations occurred in the average outlay on clothing and on fuel and light; but the absolute figures involved were fairly small, and we are in no position to offer a satisfactory explanation as to what caused these changes. As regards the outlay on clothing disbursed by the housewife, it may have been merely accidental fluctuations, while the figures for fuel and light point to a reduction in the purchases of coal, which may have been due to the supply position prevailing during our period of sampling. A number of families profited by the more normal conditions in summer 1945, as compared with summer 1944, by finding cheaper housing accommodation. These differences in the cost of housing, for the group of *changed* families, are the only reflex thrown by the changes in the general situation from summer 1944 to summer 1945, on the general structure of the household accounts for the two years.

T. SCHULZ.

EMPLOYMENT AND OUTPUT IN THE BUILDING TRADES

In discussions on problems of the building trade not always sufficient account is taken of the heterogeneous elements which are lumped together in this industry: on the one hand, we have the Civil Engineering contractors, with 635 firms, numerically the smallest branch of the industry, producing (in October 43) almost 10 per cent of building output.[1] General Builders, on the other hand, representing the majority of all building firms and absorbing the largest number of operatives and craftsmen accounted for less than a third of the total output.

TABLE I

Structure of the Building Trades, by the Type of Firm, October 1943

Type of firm	No. of firms	No. of craftsmen[1] in '000	Total operatives in '000	Value of work done[2]	
				Total in £ mill.	per operative in £
General Builders	23,322	134	214	9.2	43
Building & Civ. Eng. Contractors	1,572	62	193	13.0	67
Civil Eng. Contractors	635	4	33	2.7	82
Plumbers	5,198	16	19	1.0	53
Joiners and Carpenters ...	3,344	10	12	0.6	50
Painters	4,182	19	20	0.9	45
Other specialists	2,678	11	22	1.5	68
Total	40,931	255	513	28.9	56

[1] Carpenters and joiners; bricklayers; slaters and tilers; plasterers; plumbers and glaziers; electricians; fitters (heating, ventilating and domestic engineering).

[2] Gross output.

TABLE II

Structure of the Building Trades, by Size of Firm, October 1943

Size of firm (No. of operatives)	No. of firms	No. of		Value of work done[1]	
		craftsmen in '000	all operatives in '000	total in £ mill.	per operative in £
1— 19	36,925	111	156	7.1	46
20— 99	3,402	74	132	6.7	51
100— 499	514	39	96	5.3	55
500— 999	51	9	37	2.6	71
1,000—4,999	36	18	67	4.5	67
5,000 and over	3	4	25	2.7	109
Total	40,931	255	513	28.9	56

[1] The value of sub-contract work which had more than doubled between 1930 and 1935 is included and is probably not equally divided between the various size groups. It represented in 1930 4.2 per cent, and in 1935 9.3 per cent of the gross output of the Census firms.

According to this structure there is a wide variety of Building and Contracting work which ranges from the repainting of a room, or the repair of a bomb-damaged roof, to the construction of aerodromes, highways, railways, waterworks and harbours, and from rural cottages to factories, blocks of flats and cinemas, etc.

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[1] The data refer to one month of the year only and may be affected by seasonal factors. They are taken from 'Statistical Tables relating to the Building and Civil Engineering Industry in War-Time', published by the Ministry of Works.

At present no cross-classification of firms by size and trade groups and by the type of work undertaken is available. It is, therefore, not possible to draw any definite conclusions with regard to the efficiency of the different sizes of firms when measured in output per craftsman and operative. But there are no indications for Building being an exception to the rule that the application of labour-saving machinery, of better organization, management and directorate and of bulk purchases as practised by large enterprises, increases efficiency.

The Size of Firm

The Building Industry in peace as well as in war was marked by a multitude of small firms.

In 1935 there were 67,450 small firms employing 10 persons or less and with an average of 3.8 persons per firm, compared with only 8,662 firms of larger size.[1] While the medium and larger firms employed 500,000 persons, the small firms had no fewer than 255,000.

The 1935 data are taken from the Census of Production and relate to firms wholly or mainly engaged in the Building and Civil Engineering Industries while the recent data given by the M.O.W. for 1941–43 include a number of specialist trades. The numbers employed as given in the Census 1935 include working proprietors and also clerical staff, while the ' operatives ' as given by the M.O.W. exclude these categories.[2] A comparison of the two periods is, therefore, especially in the size-group 1—10, distorted by these differences of classification.

TABLE IIIA

Building Firms, classified by size, 1935

Size of firm (employed per firm)[1]	No. of firms	No. of persons employed in 000	Value of work done in £ 000
1— 10	67,450	255	83.0
11— 24	3,624	64	21.7
25— 99	4,092	189	74.0
100—499	868	163	73.6
500—999	47	31	16.1
1,000 & over	31	56	30.5
Total	76,112	758	298.9

[1] Including working proprietors and clerical staff.

In spite of call-up and concentration, 37,000 firms with 1—19 operatives had survived in October 1943. From 1941 onwards there were in addition some 27,000 to 31,000 firms which employed no operative on the last pay day of the month.

No data are available of the distribution of man-power at the outbreak of war so that the number of firms which had risen, between 1935 and 1939, to the next higher size group, as a result of the trend towards larger units is unknown; during the war many firms have, through loss of building labour, sunk into the next lower size group, and the two developments going in opposite directions cannot be sorted out. In the second case equipment and administrative organization would still correspond to the firms' pre-war size.

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[1] Of which 3,624 had 11—24 operatives (average 18).

[2] Clerical staff in October 43 accounted for 49,000 employees out of a total of operatives and employees of 562,000.

In measuring the size of a firm by the number of operatives it must also be kept in mind that this number changes continuously according to the work in hand, which is dependent on seasonal and market conditions differing for different kinds of buildings. At any given date, however, the number of operatives would still be the best standard available to measure the size-distribution of firms.

TABLE IIIb

Number of Building Firms, classified by size, July 1941—October 1943

Size of Firm (operatives per firm)	Number of Firms July 1941[1]	Nov. 1942	October 1943
1— 19	55,513	39,207	36,925
20— 99	5,385	3,454	3,402
100— 499	1,011	646	514
500— 999	100	58	51
1,000—4,999	79	63	36
5,000 & over	16	6	3
Total	62,104	43,434	40,931

[1] Estimated figures arrived at by dividing number of operatives in size group by number of operatives per firm.

A comparison of October 1943 with July 1941 suffers not only from a seasonal distortion but also from the differences in the speed of call-up of man-power between large and small building firms. Labour of small firms was called up earlier in the war than that of large firms which were engaged on the construction of airfields, camps, ordnance factories etc. The number of large firms and of operatives working in these establishments decreased, therefore, after 1941 more than that of small firms. The figures given in Table III do, however, indicate the size-distribution of the building industry in the pre-war period and at the height of mobilization in war.

The Employment of Craftsmen

The small firms absorb not only a large part of the building labour force, but also a very high proportion of the craftsmen in the industry. In times of a shortage of skilled labour it is important to make the best possible use of the craftsmen available by supporting them with ample machinery and with a high proportion of semi-skilled and unskilled labour. In the building industry as a whole there is one ' other operative ' for every craftsman, but in the large firms 20 craftsmen are needed for 100 ' other operatives ', and in the small firms 245 craftsmen.

Here again the different character of work has to be considered, the smaller firm being more often engaged on specialist work or on repair, maintenance and alteration. For Building and Civil Engineering Contractors, a group comprising a great proportion of the large firms, the ratio is only about ½:1, and for the Civil Engineering Contractors proper it is extremely low. On the other hand firms normally of a small average size, specializing on particular building operations have a very high proportion of craftsmen.

TABLE IV

Ratio of Craftsmen to other Operatives, by Type and Size of Firm.

Type of firm	Ratio	Size of firm	Ratio
Gen. Builders	1.66	1— 19	2.45
Building and Civ. Eng. Contrs.	0.48	20— 99	1.24
Civ. Eng. Contractors	0.12	100— 499	0.70
Plumbers	6.90	500— 999	0.34
Joiners and Carpenters	5.80	1,000—4,999	0.36
Painters	14.30	5,000 and over	0.20
Other Specialists	0:97		
All	1.00	All	1.00

A Man-Power Policy

As mentioned above, on the basis of the data given it is not possible to prove statistically that a firm of large size would need fewer craftsmen per unit of output and would organize work more efficiently if entrusted with exactly the same type of work as undertaken by the small firm (that is mainly repair and maintenance and the construction of small groups of houses). But additional information indicates the direction in which the building industry should be organized in the reconstruction period.

Priority for residential low-cost building and shortage of building labour, especially of craftsmen, represent the framework of post-war building problems. To make the best use of skilled building labour, the bulk of residential building would have to be entrusted to firms, which with the help of modern labour-saving machinery and organization and by the application of engineering methods to the construction of houses, make each craftsman the nucleus of a labour force, two, three or four times as large. This consideration would point towards the erection of blocks of flats and of new towns and large scale settlements. The smaller firms could share in this part of the reconstruction programme if they increased their efficiency by pooling arrangements for the use of modern machinery on lines so successfully followed by the War Agricultural Committees which hired out agricultural machinery to farmers lacking the necessary capital to buy this equipment.

At the beginning of the reconstruction period the incentive for small firms to search for new ways of higher efficiency is comparatively weak as sufficient work is provided by the arrears in repair and maintenance work which have accumulated during the war. Right now, many of these firms are engaged on work such as demolition of air-raid shelters and water tanks, reconstruction of walls and porches, repainting of public houses, shops and entrance halls, etc.

As no power of direction of labour exists, some more foolproof scheme of licensing and priorities with regard to repairs might usefully be worked out and time schedules for certain categories of work be developed which firms to be entrusted with the work would have to accept. In the main, those firms or groups of firms which make ample use of modern machinery and methods of organization would obtain public contracts, especially for new construction, labour would be drawn to these firms, and a general incentive for high efficiency given to the building trade. At the same time, small firms, still a training ground for skilled building labour, should be given opportunity to study and observe modern methods of building and repair and should receive technical and financial help for raising their efficiency.

In addition, the inflow of young workers to the building crafts would have to be secured as the building labour force has by now become considerably overaged. Craftsmen and labourers—those returning from the forces and munitions and those newly trained[1]—should be induced to give their skill first of all to those firms most efficient in the erection of human dwellings and in other urgent constructional work.

The Output of Building Firms, 1940–45.

The need for highest efficiency in the reconstruction period is demonstrated by the data given on the character of work done during the war and showing the extent of arrears to be made good in public, industrial, commercial, and residential construction.

Table V

Construction Work 1940—1943

New Construction	£ million	Maintenance and Repair	£ million
Air fields, camps, defence-works, etc.	507	Air raid damage and clearance work	180
Civil Defence (shelters, static water, etc.)	110		
Total Military	617		180
Public Utilities	62		
Roads and Streets	10		
Hospitals, Schools, etc. ...	27		
Other (mines and opencast coal)	57	Other	322
Total Public	156		322
Industrial and Commercial Buildings (factories, docks, etc.) ...	267	Maintenance of Government-owned property	62
Residential building (hostels and housing)	66		
Total Construction	1,106	Total Maintenance and Repair	564

No strict dividing line between military and civilian work can be drawn, some of the ordnance factories and hostels and some work on roads may not be suited to serve other but military purposes, while some of the air fields and camps might be used in peace-time as well. On the whole it should not be too misleading if for estimating disinvestment and arrears in the civilian sector only civilian work is considered. The information given relates to the years 1940–1943, so that the value of work done in the years 1944 and 1945 has to be estimated. On the one hand there was need for increased air raid repair work owing to V-bomb attacks coinciding with a further loss of manpower of some 150,000 (the number of males occupied in the building and civil engineering trades [including independents and other non-insurables] had already dropped from 1,294,000 in June 1939 to 700,000 in June 1943[1].)

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[1] The newly-established Government training centres provide for 20 months' training (with 90 per cent of full pay after 8 months and 95 per cent after 14 months), compared with the 5 years or more according to traditional trade union rules. It would be useful to examine how far the latter period is out of date.

On the other hand, the construction of air fields and camps for the American army had been largely completed and relatively more of the available manpower could be used for other purposes. In default of better information the value of work done in 1944–45 may be based on the data for 1943 when civilian construction and repair amounted to £166 million. No special allowance is made for the months between VJ day and December 31st, as the comparatively small numbers of men returning to the building industries were largely absorbed in repair and other clearing up jobs. We have also to add the last 4 months of 1939 (in 1940 the value of civilian work was roughly £240 million) and we arrive at the following estimate :

TABLE VI

Value of Building Construction during the War (£ million)

Year	Military		Civilian				
	New	Repair	New	Maintenance and Repair	Total	Cost Index[1]	Total Civilian corrected
Sept.—Dec., 39	57	—	45	35	80	120	67
1940	173	6	135	105	240	150	160
1941	162	63	138	107	245	160	152
1942	148	61	125	92	217	170	128
1943	134	50	92	74	166	180	92
1944	125	50	92	74	166	200	83
1945 (autumn)	115	50	98	78	176	220[2]	77
Total	914	280	725	565	1,290	—	759

[1] Autumn 1939 = 100.

[2] According to statement of the Minister of Work in the House of Commons the cost of £1,200 for a home in November 1945 corresponds to a £550 house before the war.

Disinvestment and Arrears

Total building work was fairly equally divided between the ' war ' and the ' peace ' sector. In order to allow for the rise in costs of building materials and labour, the money values have been corrected by a cost index which represents a rough estimate of war-time developments.[2] Of total gross investment in fixed capital of £690 million in 1938 the total value of work done by the building and contracting trades amounted to some £350 million of which about £100 million were for repairs.

If investment activity had continued on the 1938 level during the war years it would have resulted in construction worth some £2,220 million, while only £760 million have actually been invested. The difference of £1,460 million at pre-war prices (or £3,200 million according to present building costs) would equal 4 years' building activity if a pre-war labour force is assumed. But part of the annual £100 million for repairs was spent on indoor decoration, the omission of which during the war would belong rather to the category of restricted consumption than to that of accumulating wear and tear. And if we assumed a building activity restricted to the replacement of wear and tear measured by the pre-war standard of buildings, the arrears would be still smaller. On the other hand, the over-age of so many offices, factories and dwellings before the war suggests that building activity lagged far behind actual requirements and 1938 was in no way a year of specially high building activity. If building plans for dwellings are lagged by one year and corrected for costs, building output in 1938 was the lowest since 1933.

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[1] Statistics relating to the war effort of the U.K. Cmd. 6564 p. 8. Work undertaken by civilian operatives employed by public authorities is included in the total value of output but excluded from all other tables. The extent of military labour which in the erection of camps, Nissen huts etc., may have been quite considerable is unknown. Since this article examines only the civilian sector of building, the need for a correction for this fact does not arise.

[2] An attempt at a more exact estimate in 1943 has been made in a previous article.

Conclusion

The above is only a rough statistical estimate, which should be considered within the framework of the general plans for reconstruction. Concentration of skilled labour in the most efficient firms hand in hand with the improvement of efficiency by common efforts of the small firms, a better system of licensing and priorities for repair work, a careful choice of firms in the distribution of public contracts, and attractive labour conditions in the industry seem measures necessary to carry out and complete so formidable a task of construction.

S. Moos.

THE SWISS ECONOMY IN THE TRANSITION PERIOD

1. *The Impact of the War*

Although Switzerland was not involved directly in the war her economy was forced into a number of heavy and sudden adjustments through the interruption of normal trade relations and the need to prepare for defence.

In order to maintain neutrality the armed forces were kept at an average level of 160,000 men throughout the war. Under the Swiss militia system these men had to be withdrawn in rotation from normal production. Considerable resources were also diverted towards improving the equipment and supply for the forces, and to this must be added the staffing and other costs of setting up and strengthening war economic controls and organizations and of other measures for the defence of the country. As a result total expenditure of the Federal Government rose from fr. 700 million in 1938 to fr. 2,100 million in 1944. The budget deficit increased during the same period from fr. 100 million to fr. 1,240 million.

The longer the war lasted the more difficult it became for Switzerland to import, and Swiss policy aimed at making good losses of foreign supplies by raising home production of food, raw materials and manufactured articles; this was possible only at greatly increased real costs per unit of output. In 1938 imports amounted to about 20 per cent of the national income; but at the beginning of 1945 they were down to one tenth of their 1938 volume. On the other hand foreign demand for Swiss products remained very high so that the value of exports fell less than that of imports. The resulting export surplus on current account rose, and this in turn led to a cumulative expansion of internal consumption and investment.

The higher target of home production required a greater utilization of the national resources. The unemployed, numbering 30,000 persons at the beginning of the war, were rapidly absorbed. Women and older people were drawn into employment with the result that the total number of employed rose between 1938 and 1944 by 160,000 to 2,140,000 in spite of the call-up, and in spite of a considerable re-emigration of foreigners from Switzerland.

The greater productive efforts raised the level of money incomes, but could not prevent a serious diminution of civilian supplies. As the shrinkage of imports continued, scarcities became most acute towards the end of the war since total effective demand was still increasing; and anti-inflationary measures had to be strengthened. In the spring of 1945 the war economy reached its most critical stage. A certain re-adaptation of the economy to post-war conditions had, however, begun when munition exports ceased completely at the end of 1944 and industry turned over to producing goods for the reconstruction of Europe. In these industries the change-over from war to peace had made considerable progress by mid-1945.

2. *Demand and Supply during the Transition*

The main problem during the first phase of the transition period was, for Switzerland as for the other neutral countries, whether and how far it would be possible to redress the fall in public expenditure by a corresponding expansion of private expenditure. While originally the deficit of the Federal Government for 1945 was estimated at fr. 1,700 million, the actual deficit will probably be nearer to fr. 1,100 million. For 1946 the deficit is likely to be reduced further to about fr. 500 million. The reduction in the deficit by about fr. 600 million from 1945 to 1946 will probably be caused by a fall in expenditure of fr. 246 million and an increase in revenue of fr. 374 million. The financial policy of the Federal Government tends, therefore, to exert some deflationary pressure on the economy. This will, however, be more than compensated by a further rise of the export surplus and by the expansion of private home demand, so that total effective demand will, in spite of reduced Government borrowing, still further increase.

The export surplus and the inflow of gold and foreign exchange from ' invisible ' exports would seem to be the dominant factors in the Swiss economic development in the near future. By the end of 1945 Switzerland exported capital at the rate of fr. 1,000 million a year. This should be compared with an annual capital export of about fr. 500 million in the boom years 1927–9 (when the price level was however 20 per cent lower than it is to-day). At present Switzerland has an export surplus, mainly with the U.S.A. but also with France and other war damaged European countries, a surplus which is much higher than would be necessary for the maintenance of full employment in Switzerland; it tends in fact to maintain the shortages in the supply of consumer's and producer's goods in the home market. In October 1945, imports reached, for the first time since 1940, 50 per cent of their 1938 volume an improvement which helped to reduce the scarcity of raw materials and food. If the rise in imports continues, Switzerland would be enabled to discard or reduce gradually the additional home production which she had undertaken during the war. On the other hand, the cessation of German supplies, particularly of coal and of many industrial products, caused more shortages and led to attempts to substitute Swiss products for goods previously imported from Germany. This requires, however, very considerable investment in plant and equipment and adds to the general investment boom which Swiss industry is experiencing and which is largely financed out of liquid reserves held by industry. At the same time small savings tend to decrease partly because of the uncertain future, and partly because consumers wish to satisfy their pent-up demand. Moreover, the continued rise of money incomes is at present largely due to rising wage rates, and a shift towards wages, if it implies an increase in the relative share of lower incomes, will affect the propensity to save adversely. *Ex ante* savings are, under present conditions, not sufficient to finance the still very considerable budget deficit, the growing export surplus and the high level of internal investment, *i.e.* effective demand exceeds supplies at current prices and its inflationary pressure continues unabated. Pressure is concentrated on the investment goods industries where supplies improved less than in the field of consumer's goods, especially of food, while supply and demand in textiles, shoes, household and luxury goods is fairly well balanced, as far as substitute products are concerned.

3. *Prices and Wages*

As the danger of inflationary price rises persists, many war-time controls, and especially price control, have been retained. Foreign demand tends to strengthen these inflationary tendencies. The high volume of exports not accompanied by a corresponding volume of imports tends to reduce internal supplies. And export prices, particularly for European countries which have currencies partly over-valued in relation to the Swiss franc and which receive credits or loans from Switzerland, are very often more attractive than those at home. Inflationary movements in the rest of Europe will, therefore, have a tendency to spill over into Switzerland. Furthermore, Swiss workers are demanding vigorously the immediate restoration of the pre-war level of real wages. Wage rates of industrial workers in real terms fell to 86 in 1942, taking January-August 1939 as 100. This fall must be attributed to the deterioration of Swiss terms of trade during the war, to the increase in real costs of home industries, replacing previously imported products, and to the fact that Swiss agriculture for the same productive effort obtained a relatively greater share in the national income. From 1942 to 1945 the index number rose again to 95.5, mainly because the terms of trade improved through reduced transport costs of imported goods; the importance of some of the high-cost industries built up during the war is also diminishing as imports become more plentiful. If this process of contraction of substitute industries in manufacturing and agriculture continues, further opportunities of raising real wages by way of price reductions will open up. But the target of pre-war real wages will more likely be attained through a further increase in money wages, which at the end of 1945 were on the average 47 per cent higher than before the war, while the cost of living index stood 51 per cent above the pre-war level and is not likely to recede much. Employers tend to argue that wage increases at a time when productivity is still below the peace-time standard will inevitably mean a cut in profits or a further rise in prices. They are inclined, therefore, to advocate the postponement of upward revisions of wages until workers' productivity is back at the pre-war level and the cost of living is lowered further.

4. *Prospects of Employment*

Total employment has further increased since the end of the war by 60,000 persons, and has reached the record level of 2.2 million, representing slightly more than half the total resident population of Switzerland in 1945. The number of fully unemployed fell to an irreducible minimum of 3,900 persons by the end of October. Demobilization did not lead to an increase in unemployment, on the contrary low wage industries (textiles, shoes, hotels, agriculture, domestic service) are short of labour, so much so that in some cases available raw materials cannot be utilised. Under these conditions of full employment the working class is in a strong position to press their demand for higher wages.

On the whole, therefore, Switzerland is experiencing a typical post-war boom sustained by extensive budget deficits, capital exports and internal investment, as well as remarkably smooth transition from the high level of activity during the war, which was, however, associated with lower real income, to the present reconstruction boom which will certainly last throughout 1946.

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ERRATUM:

PROPER NUTRITION AT LOW COST

In the article on *Proper Nutrition at Low Cost*, BULLETIN, Vol. 7, No. 17, the daily minimum requirement per ' man ' of vitamin B_1 as suggested by the Ministry of Health, was given as 0.3 mgm. Our attention has been drawn to the fact that in the Ministry of Health data of nutritional requirements which were made available to us, the individual requirements of vitamin B_1 are expressed in International Units and not in microgrammes. The figure in Table IX of our article referring to requirement per ' man ' in the Ministry of Health scale of vitamin B_1 should, therefore, be 0.9 mgm. instead of 0.3 mgm. The amount of vitamin B_1 obtained from the minimum diet as suggested by us is 1.3 mgm. per ' man ' per day. Hence this intake, although providing a fair margin of safety, is not so ample as it appears from our article.

T. S.

TABULAR APPENDIX

EDITORIAL NOTE

The January issue of the BULLETIN contained a series of tables designed to show recent developments in the British economy. The following set of tables, called Series B, present figures illustrating the economic development in U.S.A. and some European countries. As in the case of Britain, 1938 was taken as the base year, but it should be remembered that 1938 was in some countries a year of severe recession. The figures are given as far as possible as monthly or quarterly averages.

When statistical data of foreign countries become more easily available, we hope to add other countries and to include new series in this survey.

Explanation of Symbols

( ) — figure is provisional or approximate.

N.A. — figure is not available

— — figure is negligible.

B. ECONOMIC DEVELOPMENTS ABROAD.

TABLE 1

U.S.A.

				1944		1945			
Index Numbers : 1938 = 100[1]	1939	1943	1944	June	Dec.	June	Sept.	Oct.[2]	Nov.[3]
Income Payments (Mthly) :									
Total, $ 1,000 Mill. ...	5.9	11.9	13.0	13.6	14.4	14.4	13.5	N.A.	N.A.
Index, adjusted ...	107	216	237	237	242	248	233	236	238
Consumer Expenditures :									
Mthly. aver. $ 1,000 Mill.	5.1	7.6	8.1	8.0	8.9	8.2	8.4	N.A.	N.A.
Index, adjusted ...	105	155	167	N.A.	N.A.	172[8]	N.A.	N.A.	N.A.
Dept. Store Sales, Value Index	107	170	188	178	198	204	201	215	229
Vol. Index of Farm Mktgs.[4]	109	133	144	141	137	148	130	N.A.	N.A.
Vol. Index of Ind. Prodn.[5]...	122	268	264	264	260	247	191	183	191
Durable Manuf.	140	461	452	454	440	395	251	242	252
Non-durable Manuf. ...	115	185	180	178	182	182	164	162	167
Constrctn. Contr. Awarded :									
Value Index	113	106	64	53	80	78	108	123	150
Vol. Index[6]	113	86	50	41.5	62.5	59.5	80	N.A.	N.A.
Index. of Non.-agr. Empl.[7]	106	139	135	135	133	131	122	121	123
,, Factory Employmt....	111	197	188	188	181	168	136	134	135
Index of Wholesale Prices...	98	131	132	132	133	135	134	135	136
Do. Farm Products ...	94	179	180	182	183	190	181	184	191
Cost of Living Index ...	98	123	124	124	126	128	128	128	128
Facty. Av. Hrly. Earngs. cts.	63.3	96.1	101.9	101.7	104.0	103.8	98.8	98.5	N.A.
Do..1938 = 100	101	153	162	162	166	165	157	157	N.A.
Mthly. Comm. Expts.[8] Mill. $	260.3	206.9	238.0	251.5	241.7	315.8	342.3	365.6	N.A.
Mthly. Ret. Impts. Mill. $...	189.7	281.7	322.4	322.1	332.7	338.8	328.8	343.0	N.A.

Footnotes see bottom of next page.

TABLE 2

FRANCE.

Index Numbers : 1938=100	1939	1943	1944	1945[1]	1945		
					June	Sept.	Dec.[1]
Monthly Production of Coal[2,3]							
1,000 metric tons ...	4,185	3,538	2,217	2,922	2,686	3,127	3,552
Index	106	89	56	73.5	68	79	90
Monthly Production of Steel[3]							
1,000 metric tons... ...	657	194	106	134	126	169	233
Index	128	38	21	26	24.5	33	45
Approved Building Plans[4]							
1,000 cbm.	706[5]	79	55	N.A.	164	86	131[7]
Daily Wagon loadings ('000)[6]	41.4[5]	21.9	8.9	N.A.	16.0	21.3	26.0[7]
Index of Wholesale Prices ...	104	218	252	N.A.	373	N.A.	N.A.
Index of Hourly Wages[8]							
Skilled	103	142	231	N.A.	314[9]	N.A.	N.A.
Unskilled	103	149	248	N.A.	304[9]	N.A.	N.A.
Monthly Imports Mill. frs. ...	3,649	1,162	645	4,569	3,157	4,662	12,928
Monthly Exports Mill. frs. ...	2,633	2,945	1,997	949	851	1,383	2,175
Monthly Imports 000 tons ...	3,262[10]	388	186	859	490	1,244	N.A.
Monthly Exports 000 tons ...	2,083[11]	1,067	588	220	187	397	N.A.

Sources : Statistique Générale de la France ; La Vie Française, Hebdomadaire Economique et Financier ; League of Nations, Monthly Bulletin of Statistics.

[1] Partly provisional.

[2] Incl. Lignite.

[3] Figures for 1943 and 1944 exclude Alsace Lorraine.

[4] Covering Greater Paris and 41 provincial towns.

[5] 1938.

[6] Figures for 1943 and 1944 exclude the Sous-direction de Strassbourg.

[7] November.

[8] October 1938=100. All annual figures relate to October.

[9] April.

[10] 3,929,000 tons in 1938.

[11] 2,249,000 tons in 1938.

Footnotes to Table 1.

Sources : *Department of Commerce* for Income Payments, Consumer Expenditures and Farm Marketings : *Board of Governors of the Fed. Res. System* for Industrial Production and Department Store Sales ; *U.S. Dept. of Labor* for Wholesale Prices, Cost of Living, Employment and Hourly Wage Earnings ; *F. W. Dodge Corp.* for Value of Construction Contracts awarded.

[1] All index numbers, except those of wholesale prices, cost of living (and wages), are adjusted for seasonal variations.

[2] Partly provisional.

[3] January—June, seasonally adjusted rate.

[4] 1935—1939=100.

[5] Mining and Manufacturing.

[6] Value index deflated with the (Engineering News Record) Index of Construction Costs.

[7] All non-agricultural wage—and salary earners except those in Domestic Service and in the Armed Forces.

[8] Excluding Lend-Lease and Re-exports,

TABLE 3 BELGIUM

Index Numbers: 1938=100 Monthly figures	1939	1943	1944	1944		1945		
				June	Dec.	June	Sept.	Dec.
Production of Coal								
1,000 metric tons ...	2,487	1,978	1,125	1,088	1,092	1,291	1,409	1,729
Index No.	101	80	45	44	44	52	57	70
Production of Steel								
1,000 metric tons ...	259	139	52	16	12	54	86	114[1]
Index No.	136	73	27	8.5	6.5	28	45	60[1]
New Constructions, No. of units	714[2]	45	39	22[3]	N.A.	110	283	N.A.
Wagon loadings (in 1,000)[4]	685[2]	466	N.A.	151[3]	N.A.	404	N.A.	N.A.
Imports[5] Mill. frs. ...	2,018[6]	535	305	360	53	972	1,694	(2,500)
Exports[5] Mill. frs. ...	1,850[6]	742	452	505	19	187	501	(925)
Imports[5] '000 tons ...	2,868[6]	N.A.	N.A.	N.A.	36	345	963	1,354[7]
Exports[5] '000 tons ...	1,912[6]	N.A.	N.A.	N.A.	22	76	204	188[7]

Sources: Bulletin de Statistique (Office Central de Statistique); Monthly Bulletin of Statistics, League of Nations.

[1] November. [2] 1938. [3] August.

[4] In terms of wagons of 10 tons.

[5] Figures for 1936–8 and 1945 refer to Belgium-Luxemburg.

[6] Monthly average 1936–8. [7] October

TABLE 4 SWITZERLAND

Index Numbers: 1938=100	1939	1943	1944	1945	1945		
					June	Sept.	Dec.
Index of:							
Industrial Employment[1] ...	99	105	100	N.A.	109	112	N.A.
Wholesale Prices	104	204	208	206	207	208	200
Cost of Living	101	148	152	153	153	153	151
Tourism (Monthly)[2] ...	77	24	26	N.A.	24	68	65[3]
Monthly Imports Mill. frs. ...	157	144	99	102	76	107	263
Monthly Exports Mill. frs. ...	108	136	94	123	134	129	167
Index of Imports at 1938 prices	117	47.5	31.5	31	22	30	89
Index of Exports at 1938 prices	96	63	40	57	62.5	60	70

Sources: Schweizerische Nationalbank, Monatsbericht.

[1] Number of wage-earners employed in a representative sample of establishments, incl. building.

[2] Based on the statistics of nights spent by foreign tourists in Swiss hotels.

[3] November.

TABLE 5 DENMARK.

Index Numbers 1938=100 ...	1939	1943	1944	1944		1945				
				June	Dec.	June	Sept.	Oct.	Nov.	Dec.
Index of:										
Industrial Production[1] ...	105	87	87	89	88	71	78	83	85	88
Prodctn. of Animal Prodts.	103	57	67	76	61	70	68	64	55	52
Prodctn. of butter	96	66	68	94	53	92	83	77	62	57
Prodctn. of bacon ...	99	49	61	57	61	35	37	44	33	37
Wholesale Prices	105	191	194	194	195	190	187	184	182	182
Cost of Living	101	155	157	157[2]	158[3]	159[2]	N.A.	159	N.A.	N.A.
Monthly Imports Mill. Kr. ...	145	102	97	125	87	32	77	78	75	130
Monthly Exports Mill. Kr. ...	131	103	112	112	114	91	84	98	115	101
Index of Imports at 1938 prices	98	34	32	42	29	11	28	29	29	50
Index of Exports at 1938 prices	101	44	46	46	46	38	37	43	51	45

Source: Statistike Departement, Statistike Efterretninger.

[1] Adjusted for seasonal variations.

[2] July. [3] October.

TABLE 6
SWEDEN.

Index Numbers 1938=100 ...	1939	1943	1944	1944		1945			
				June	Dec.	June	Sept.	Oct.	Nov.
Index of :									
Industrial Production[1] ...	106	93	93	93	97	73	104	106	107
Industrial Employment[2] ...	103	102	103	N.A.	106	87	109	111	110
Wholesale Prices	103	175	175	176	175	176	171	171	171
Cost of Living	102	144	145	145[3]	146[4]	145[3]	N.A.	146	N.A.
Monthly Imports Mill. Kr. ...	208	151	139	162	101	50	135	162	160
Monthly Exports Mill. Kr. ...	157	98	69	84	77	124	245	265	238
Index of Imports at 1938 prices	109	33	35	36	23	12.5	32.5	37.5	37
Index of Exports ar 1938 prices	106	37	26	32	29	47.5	93	102	92.5

Source : Skandinaviska Banken, Quarterly Review ; League of Nations, Monthly Bulletin of Statistics.

[1] Mining and Manufacturing.
[2] Number of wage-earners in Mining and Manufacturing.
[3] July.
[4] October.

TABLE 7
FINLAND

Index Numbers : 1938=100	1939	1943	1944	1944	1945		
				Dec.	June	Sept.	Nov.
Index of :							
Industrial Production (Qtrly.)[1]	89	46	38	32	46	48	N.A.
Consumptn. of Cement (Qrtly.)	118	49	41	49	50	47	N.A.
Wholesale Prices	105	242	268	275	336	452	522
Cost of Living	102	192	203	204	242	328	401
Monthly Imports Mill. M. ...	631	1,073	741	452	349	512	814
Monthly Exports Mill. M. ...	643	726	549	232	543	1,555	1,470
thereof : reparations ...	—	—	—	—	—	823	483
Index of Impts. at 1938 prices ...	88	N.A.	N.A.	N.A.	(13)	(17)	N.A.

Sources : 'Unitas', Quarterly Review of Trade Conditions in Finland ; League of Nations, Monthly Bulletin of Statistics.

[1] Export industries only.

TABLE 8
Coal-mining and -supplies in Western Europe

	July 1945			December 1945			Dec. 1945 in % of mthly. aver. 1935–8		
	Emplyt. '000	Prodn. '000 tons	Impts. '000 tons	Emplyt. '000	Prodn. '000 tons	Impts. '000 tons	Emplyt.	Prodn.	Impts.
W'st'n. Germany	157	2,052	—	245	4,637	—	77	41	—
France	252	2,704	348	299	3,523	723	133	91	36
Belgium ...	114	1,140	86	157	1,729	351	114	73	98
Holland... ...	30	390	101	31	503	229	110	46	33
Luxemburg ...	—	—	69	—	—	120	—	—	47
Norway ...	—	—	166	—	—	198	—	—	78
Denmark ...	—	—	77	—	—	294	—	—	62

Source : European Coal Commission.